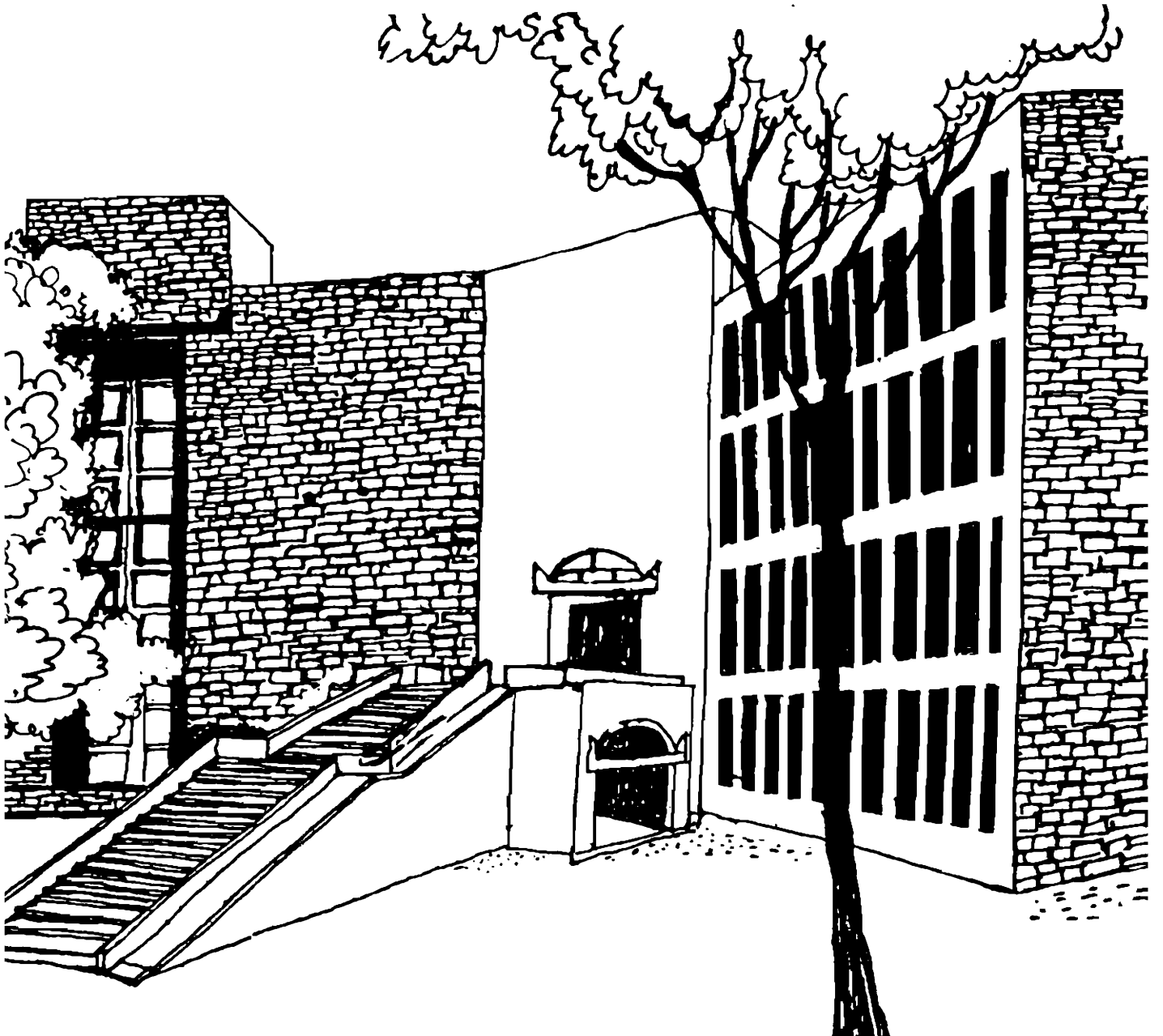





# Working Paper



# How Managers Kindle Learning Processes

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## **How Managers Kindle Learning Processes**

### **Abstract**

Organizational learning occurs when the insights and learnings of individual organization members are transferred to the larger organizational system. This paper examines how senior managers create processes which enable this transfer to take place effectively. It presents an empirical study, conducted in seven major subunits of a large, national organization engaged in R&D and project management. The various dimensions of organizational learning are: developing clear focus on objectives and plans for internal integration; being sensitive to people potential and needs; generating concern for long term planning and success; supporting experimentation/ creativity; scanning the environment; and generating triggers for change and attending to development of capabilities.

The results suggest that organizational processes do bear a significant association to these learning dimensions. Hence, for managers with the vision of building learning organizations, the effective management of organizational processes become crucial for fostering learning. Managers adopting developmental or nurturant-task styles of leadership, proactive methods of conflict management, and having an explicit agenda of change and innovation contribute to organizational learning. Further, the study shows that learning organizations are also high performance organizations.

Some of the important themes that emerge from the study are: the necessity for empowerment of organizational members to take up learning challenges; supportive, nurturant, and facilitating approach of managers towards unlearning and relearning; and the significance of team learning.

## **How Managers Kindle Learning Processes**

In today's fast changing environment, the necessity for organizations to learn continuously is well recognized. Learning disabilities can threaten organizational health and survival.

For example, organizations tend to become sick when they fail to learn to operate economically, show no concern for development of new products and services, and make no efforts to meet the demands of the environment. Sickness is a major problem in India and other developing countries (Khandwalla, 1989).

An American study has shown that, the average life expectancy of family-owned or controlled organizations is only 24 years. Further, only three of ten such firms survive beyond the first generation (Beckhard and Dyer, 1983). The high sickness and mortality rates are often caused by the inability of the senior managers to develop appropriate strategies and effectively handle the process of learning and change.

Changes in the environment create uncertainties for organizations, but also open opportunities for globalization, diversification, modernization, technology acquisition, introduction of new systems and professional culture, greater power sharing, participative management, etc. To be successful in such an environment, organizations are finding themselves searching for new formulations, approaches, and ways of working (Ramnarayan and Bhatnagar, 1993). As Garrat (1988) points out, for any organism to survive, the rate of learning should be greater than or equal to the rate of change in the environment. As organizations confront increasingly dynamic environments, the concept of a learning organization has become an important term in the management lexicon (Beard, 1993).

According to Argyris and Schon (1978), organizational learning occurs when individual organization members who are the agents of organizational learning detect and go on to correct errors or mismatches between the expected and actual outcomes of organizational actions. Some firms are able to ensure greater diffusion of learning of their employees to the organization, and so are able to compete more successfully in the market place (Kiechel, 1990). Pascale (1982) and Sullivan and Nonaka (1986) argue that Japan's success story can be traced to superior mechanisms and processes for organizational learning in Japanese corporations.

### **Characteristics of a Learning Organization**

A learning organization is one which continuously strives to expand its capabilities to adapt to changes in the environment. It values learning and develops active mechanisms and processes by which learning of individual members is effectively transferred to the larger organizational system. The senior managers of learning organizations upgrade the skills of members, build a learning culture, and evolve alternative strategies for success. However, in this endeavour, they are often faced with certain inherent impediments, which may be termed as 'blocks' to learning. Managers have to devise remedial strategies and actions to overcome these blocks. The nature of blocks and the attendant learning

challenges form the basic dimensions of organizational learning (Ramnarayan, 1992). These dimensions are briefly discussed below.

**Block : Functional myopia.** In most organizations, members consider their function as the only important one in the organization. This notion manifests itself in the attitude of functional specialists to view and evaluate any organizational issue from their perspective alone, and in isolation from the key interlinkages which may exist with other units in the organization or environment. When myopic groups come together for resolving organizational issues, they merely tend to restrain each other, leading to what may be called "mutual checkmating". This prevents the emergence of constructive alternatives. When there is functional myopia, organizational members may even withhold relevant information from other units in the organization.

**Learning Challenge : Develop clear focus on objectives and plans for internal integration.** Even if there are bright and competent members, they tend to cancel each other out in units suffering from functional myopia. Managers can resolve this paradox of 'dull units with bright members' by consistently striving to raise awareness of organization-wide concerns and the need for individual units to address these issues collectively. A learning culture requires open communication, free exchange of ideas, a spirit of collaboration among specialists and line managers, and mutual trust. A shared set of values and a common vocabulary need to be evolved so that different units and functions begin to address the most pressing issues and problems in common terms.

Learning organizations have a clear focus on objectives which serves as an integrating force within the organization. Senior managers back organizational changes by their visible support and energetic actions, evaluate new ideas and proposals based on sound policies and priorities, and make concerted efforts to move away from standard practices and evolve new solutions to difficult and persistent problems.

**Block : Command and control orientation.** Many organizations fail to sustain the enthusiasm and eagerness of junior and middle level employees to contribute effectively. This happens because the employees feel that the organization is interested only in their "hands" and not in their "heads" or "hearts". In other words, organization may have few mechanisms or processes in place to tap their ideas or insights and channelize their innovative spirit. If the organization does not show sufficient sensitivity to people potential and needs, members may feel peripheral, disillusioned, and alienated.

Barth (1988) notes that, even with their specialized knowledge and diverse experience acquired over a period of time, career civil servants are unable to contribute to the learning of their agency/ organization. He argues that, with periodic changes in political leadership, missions and values are thrust on the careerists and they are given no opportunity to influence agency policy. Their responsibility remains restricted to implementation as per directives. Barth notes that expression of dissent is treated as obstructionism. Such an orientation is not conducive to organizational learning.

**Learning Challenge : Developing sensitivity to people potential and needs.** Enabling the flow of individual insights and ideas to appropriate decision makers is a big managerial challenge. This

requires a flexible mode of management open to new ideas. There should not only be participation, but also shared priorities and values among members to make participation and involvement meaningful (O'Brien, 1990). It is important for the organization to encourage and reward innovative ideas. Managers should make conscious efforts to sense operational realities, internal climate of the organization, and dissatisfaction among members so that they can take suitable measures to set things right. Members at all levels should have opportunity to participate in periodic reviews of organizational strengths, weaknesses, opportunities and threats.

**Block : Preoccupation with day to day routines.** Most managers find it difficult to do the balancing act of carrying on their daily operations and functions without any interruption, while at the same time planning and building for the future. Investment in future requires conscious attention to the development of latent or invisible assets (Itam, 1987). When senior managers allocate time, attention, and energy to build technical and managerial skills of the employees; develop R&D or market know-how; generate values of quality and team work; or create sound relationships with customers, dealers, suppliers, and other units, they contribute to the latent assets of the organization. Managers who ignore the task of building latent assets end up spending most of their time and attention on day to day activities, thereby neglecting the crucial task of facilitating organizational learning. Organizations with a thin base of latent assets do not have the inner strength to cope with the pressures of a rapidly changing environment.

**Learning challenge :Generating concern for long term planning and success.** Managers need to support and expand the core skills essential for long term competitive advantage of the organization. Periodic reviews of the learning processes in the organization are essential. Through its commitment to well-defined organizational priorities, management creates a learning agenda for individuals and subunits within the organization.

**Block : Excessive formalization.** Emphasis on strict adherence to rules and regulations robs the innovative spirit of members since every idea or proposal is put through "proper channel" and subjected to the scrutiny of all and sundry along the reporting line, many of whom may not even be serious and interested enough to pursue the ideas to their fruitful completion. This over a period of time leads to a state of apathy and indifference among members leading to loss of motivation to propose new approaches.

**Learning Challenge : Support experimentation/creativity by deliberate and temporary relaxation of rules.** To overcome this block, managers need to motivate members to come up with new ideas and facilitate experimentation by loosening up the system. Support for experimentation and creativity requires deliberate and temporary relaxation of rules (March, 1971), elimination of "red tapism" which strangles innovative spirit and initiative of organizational members, and acceptance of mistakes committed in the process of experimentation as genuine business risk.

**Block : Insufficient external orientation.** The drastic changes in environment makes it inevitable that many external factors which hitherto have been irrelevant or insignificant for the organization suddenly become very critical, even threatening the organization's very survival. For

example, many organizations in developing countries which enjoyed a monopoly market and government protection did not bother about customer satisfaction, competitive forces, and newer developments in technology and management practices. Suddenly they find their national economies opening up, trade barriers being pulled down, and seemingly unimportant items in their old agenda ringing death bell over their heads. This situation has arisen because of their insufficient external orientation. Even successful companies which become complacent or overconfident may fail to detect or act on significant developments in the environment.

**Learning Challenge : Environmental scanning.** The organization should closely monitor happenings in the outside world and be aware of the latest developments in the field achieved by similar organizations. Global trends should be picked up and information passed on to the concerned departments quickly. The notion of 'absorptive capacity' (Cohen and Levinthal, 1990) is relevant here. It is the ability of an organization to recognize the value of new, external information, and to assimilate and apply it. It is an important component of the innovative capabilities of the organization. For effective environmental scanning managers have to devise formal mechanisms which ensure frequent incorporation of national and international perspectives into their planning process. There must be periodic review of key subject areas. At a personal level managers have to widen their perspective and enlarge their information base by resorting to diverse sources of information, formal and informal.

**Block : Lack of urge for change.** This happens because of many reasons : organizational members are socialized from an early age to conform to authority and follow directives; there is low mobility of members across units and functions and so members get entrenched on certain viewpoints and perspectives; insufficient lateral entry of 'fresh minds' at middle and senior levels; and excessive job security. Members, therefore, perceive change and learning as threats to their peaceful existence.

**Learning Challenge : Creating triggers for change and attending to development of capabilities.** Managers have to either deliberately create events or capitalize on crucial and opportune happenings in the organization or environment to raise valid questions about the tacit mental models of organizational members. Inquiry into the collective mental models of members about the organization and its future can facilitate meaningful self-analysis and lead to organizational learning.

The organization can develop its capabilities in a variety of ways : members are equipped to shoulder the challenge of organizational change through effective training; specialists are exposed to organization-wide issues regularly; constructive dissent is encouraged; interactions with experts from outside the organization is facilitated; and there are regular reviews of progress on innovative ideas.

### ***Importance of Organizational Processes***

Commenting on the discussion on product development at Mitsubishi and Chrysler that took place in a management development programme for Chrysler Corporation, Richard Hamermesh, a former Harvard Business School professor, notes that the managers at Chrysler realized that it is not the quality of the engineers that made the difference but that Chrysler's management processes took

too much time (O'Reilly, 1993). This means that effective management of the organizational processes is vital for sustaining the competitive edge of any organization.

Often organizations pay attention to generation of insights and learning, but tend to ignore the dimension of organizational processes which facilitate or block the flow of these insights to other parts of the organization where these ideas can be interpreted, acted upon effectively, and stored in organization memory. For meaningful organizational learning to ensue, the insights and learning of individual organization members who act as learning agents have to flow into the larger organizational system or other subsystems in the organization.

Organizational learning occurs at multiple levels and on multiple occasions. For example, a sales engineer becoming aware of the competitor's latest move when he meets a customer, supervisor getting a new idea of doing some job in a more efficient manner when he meets a shopfloor employee, or the R&D scientists coming out with some new developments. Any of these ideas and innovations can reach implementation stage and thus benefit the organization only if they are allowed to be generated through a congenial organizational climate; organization members feel a sense of motivation and contribution to engage in this process; the ideas and innovations reach the proper decision makers promptly; and the organization values this process of idea generation and facilitates action on them.

This flow of insights, ideas, thoughts, and learning from the individual to the system occurs through organizational processes. Processes like communication, decision making, leadership, management of conflict, orientation of organizational members, and allocation of managerial attention facilitate this transfer. Thus, organizational processes become important and have to be managed effectively to foster learning in the organization.

### **The Study Design and Methodology**

**Aim :** The discussion so far reveals the importance of organizational learning in today's changing environment. It is, therefore, imperative that managers create supportive organizational processes. This study is intended to identify the nature of organizational processes which can foster organizational learning.

For this purpose, the study sought to examine certain organizational units in terms of some key processes, organizational learning, and performance, and then explore the nature of relations among these constructs. The intention was to develop insights for managers attempting to build a learning culture in their organizations by creating effective organizational processes.

**Context :** This study was conducted in the Indian Space Research Organization (ISRO). ISRO is a mission oriented organization engaged in R&D in advanced areas of science and technology, and is concerned with operationalization of space services for national development. The organization has more than 11,000 scientific and technical personnel working at the frontiers of pure and applied sciences in very diverse areas such as meteorology, navigation, geology, and oceanography, in addition



to the primary domain of space science, technology and applications. It has its research centres, satellite stations, and other units dispersed all over the country.

ISRO maintains collaborative relationships with similar organizations in the United States, Russia, France, and Germany. ISRO has several major achievements to its credit. As the organizational pursuits are in the forefront of technology which is constantly undergoing rapid upgradation and the organizational members work in very diverse areas, the importance of effective internal integration and conscious organizational learning is quite obvious.

**Sample :** The sample consisted of 260 middle and senior level managers from all the units of ISRO. They belonged to the rank of senior professionals with independent responsibilities. The respondents were highly qualified and experienced. Many of them would be counted among the top professionals in their respective fields in the country.

**Methodology :** The study was carried out through a questionnaire. The questionnaire was thoroughly discussed with an internal task force of ISRO which consisted of senior managers from different locations. This was done to incorporate relevant views and needs of the organization on learning so that the findings could be of use to the organization to improve its performance.

The final version of the questionnaire was administered in seven major units of ISRO by local task forces. It consisted of items to be rated on a Likert-type scale. At the conclusion of the study, the analysis and results were fed back to the organization. Discussions were held with about fifty top and senior managers of the organization on the outcomes and findings of the study.

### ***Description and Measurement of Key Constructs***

#### **Organizational Learning**

The dimensions of organizational learning have already been discussed in an earlier section. A 46-item questionnaire (Ramnarayan, forthcoming) was used to measure organizational learning of the subunit. The Chronbach's alpha scores of each of the six dimensions have been presented in Table 1.

#### **Organizational Processes**

The survey included the following key organizational processes:

- i) Orientation of organization members
- ii) Allocation of managerial attention
- iii) Dominant modes of conflict management and
- iv) Styles of leadership.

Each of these aspects has been summarized in Table 1, and elaborated below.

**Orientation of Organizational Members.** This aspect refers to how organization members experience themselves in the organizational space. This influences their perception of their locus standi in the organization, and their satisfaction with job related factors and other aspects of their life in organization. Six composite variables were used to measure this aspect.

**Sense of meaningful job assignment :** This measures if members are satisfied with their present job and feel enthused to learn to perform better and contribute meaningfully. The various elements included in this construct are : clarity of job, challenge in job, sense of worthwhile accomplishment, job satisfaction, opportunity to do something useful to society and opportunity for taking initiative. Chronbach's alpha is 0.78.

<b>Table 1: Key Organizational Processes and Constructs</b>	
<b>Key Organizational Processes and Constructs</b>	<b>Chronbach's Alpha</b>
<b>Organizational Learning</b>	
Clear focus on objectives and plans for internal integration.	0.91
Sensitivity to people potential and needs	0.82
Concern for long term planning and success	0.69
Support for experimentation/creativity	0.64
Environmental scanning	0.73
Creating triggers for change and attending to development of capabilities	0.76
<b>Key Organizational Processes</b>	
i) <b>Orientation of Organizational Members</b>	
Sense of meaningful job assignment	0.78
Sense of development	0.77
Sense of harmony among the organizational members	0.73
Sense of reward in one's job	0.68
Sense of security	0.64
ii) <b>Allocation of Managerial Attention</b>	
Managerial Attention to Change and Innovation	0.84
Managerial Attention to Continuity	0.93
iii) <b>Dominant modes of Conflict Management</b>	
Proactive methods	0.60
Committee referral (Single variable item)	---
Hierarchical referral (Single variable item)	---
Avoidance orientation (Single variable item)	---
One-to-one resolution (Single variable item)	---
iv) <b>Styles of Leadership</b>	
Nurturant-Task (NT) leadership (Single variable item)	---
Developmental leadership	0.83
Professional leadership (Single variable item)	---
'Get results by any means' style (Single variable item)	---
<b>Organizational Performance</b>	<b>0.93</b>

**Sense of Development :** The life in the organization would appear as static or dynamic to the members depending on their own identification with organizational activities which comes with a sense of development of the self, concomitant with organizational growth. This composite variable included the following items: satisfaction with managerial training, satisfaction with technical training, opportunity to influence decisions of superiors, opportunity for development of skills and knowledge to handle greater responsibility, and support and encouragement from superiors. Chronbach's alpha for this variable is 0.77.

**Sense of harmony among the organizational members:** The overall climate of the organization has a decisive bearing on the impetus to learning. A fertile ground for meaningful organizational learning is created when organizational members genuinely and collectively share the value of cooperation to achieve organizational excellence. The different items which constitute this composite variable are as follows: attitude of workers and unions towards work and company, team spirit among subordinates, harmony within the organization, and the spirit of cooperation among colleagues. Chronbach's alpha is 0.73.

**Sense of Reward in One's Job :** For organizational members, explicit or implicit rewards provide a sense of positive reinforcement and motivate them to contribute effectively to the organization. This composite variable includes three items: opportunity for promotion, praise and respect from superiors for good work done, prestige in society from one's job. Chronbach's alpha is 0.68.

**Sense of Security :** A secure job can either foster or inhibit organizational learning, depending on the organization culture. When organizational members are not constrained by uncertainty in tenure and fear of dismissal, they can concentrate on their respective tasks. They may also experience a strong sense of loyalty and commitment to the organization. But excessive security is also known to inhibit learning because organizational members simply take their survival and the survival of the organization for granted. They may not experience any felt need for learning. The items included in this construct are : job security, helpful nature of immediate boss, and having access to all information one needs for making decisions. Chronbach's alpha is 0.64.

**Allocation of Managerial Attention.** March (1988) notes that managerial attention is a highly scarce organizational resource, and allocation of attention, therefore, is a key organizational variable. Managers have to do the delicate balancing act between activities that ensure today's bread and butter and activities that ensure a healthy future. The former may be referred to as continuity related activities and the latter seeks to accomplish change and innovation to sustain and upgrade the organization's core competence to meet the future demands. Very often innovation and change suffer fatal negligence with managers spending too much of their time and attention on activities relating to continuity. The two aspects of managerial attention are elaborated below.

**Managerial attention to change and innovation:** This refers to the futuristic actions of managers whereby they anticipate, equip, and prepare the organization for facing newer challenges. This composite variable consists of a number of items: developing managerial and technical abilities

of subordinates, ensuring professional satisfaction of employees by providing challenging work, developing and implementing new methods of work, tapping the creative ideas of employees, introducing technological innovations and improvements, ensuring satisfaction of employees by providing caring environment and effective personnel practices, assimilating new technologies, developing the ability of the group to work together, and establishing challenging goals/ overall priorities for the work group. Chronbach's alpha for this factor is 0.84.

**Managerial attention to continuity:** This means more than performing the usual routine chores of administration or day to day operation. It must be noted that even sustaining performance at a high level requires considerable effort. This composite variable consists of the following variables: meeting time deadlines in one's work relating to external agencies as well as internal departments, working effectively with other departments, maintaining high quality standards in work, bringing decision making as close to action as possible, and maintaining a good work culture in the group. Chronbach's alpha is 0.93.

**Dominant Modes of Conflict Management.** With horizontal and vertical differentiation, conflicts are inevitable in any organization. As Thomas (1977) notes, conflicts can do severe harm as well as immense good depending on the manner in which they are managed. He describes several positive effects of conflict; organization members consider conflict as a process of testing and assessing so that it could bring out the best in them resulting in complete utilization of their capabilities; it generates divergent views, the confrontation of which can result in ideas of superior quality; aggressive behaviour by conflicting parties need not always be a win-lose situation, but can also be a win-win situation where conflicting circumstances drive the concerned parties to search for creative solution; finally there can also be some useful side effects like conflicts inviting the attention of managers to organizational systemic problems requiring change.

In the words of Hall (1971), "conflict effectively managed is a necessary pre-condition for creativity." Conflicts are, therefore, important for organizational learning. Thus the crux of the matter lies in management of conflict rather than its elimination.

In our study, the respondents were asked regarding the extent to which the following styles of conflict management were used in their subunits: planning to anticipate potential sources of conflict to minimize points of friction; and by emphasis on corporate objectives, core values, communication and job rotation. Both these are proactive methods of conflict management which form a composite variable with a Chronbach's alpha of 0.60; disputes are referred to committees (committee referral); conflicts are referred to higher level bosses for mediation or decision (hierarchical referral); conflicts are pushed under the rug (avoidance orientation); people in a conflict situation come to an agreement on one-to-one basis (one-to-one resolution).

**Styles of Leadership.** Bennis and Nanus (1985) note that many organizations are very well managed but very poorly led. This is because many of them excel in performing routine tasks while not bothering to question the basic assumptions underlying them. The role of leadership becomes critical here.

He lists four essential competencies of an effective leader: a) management of attention, whereby the leader is able to attract others to him by conveying a clearly focussed vision; b) management, of meaning whereby the leader communicates the vision and dreams in a manner understood by the followers; c) management of trust, meaning that the leader successfully nurtures others' trust in him by being reliable; and d) management of self, meaning that the leader is fully aware of his potential, capabilities and shortcomings and is able to utilize them effectively.

Selznick (1957) names four leadership tasks which, if not done, can seriously undermine organizational performance. They are: defining purposes; embodying purposes in programmes; defending institutional integrity; and ordering internal conflict.

Senge (1990) says that the very concept of a learning organization is vision. Therefore it needs a leader to convey this vision to organization members; motivate and align them; and pragmatically guide them to accomplish it. This study looked at the following leadership styles to understand in their role in fostering organizational learning.

**Nurturant-Task (NT) Leadership.** A nurturant-task leader is defined as "one who emphasizes task accomplishment, explicit communication, goal orientation and purposiveness in the organization. At the same time, he cares for his subordinates, shows affection, takes a personal interest in their well being and makes them realize that they can grow and advance only through task accomplishment and work involvement" (Sinha, 1977). Thus, concern for task and nurturant orientation are the two pillars of this style.

Both NT and democratic or participative styles are similar in their ways of enabling full participation of the members in organizational activities, especially decision making, emphasis on high quality of work, supportive care for their growth, and full recognition of each member as an individual of worth to the organization. But there is an important difference between the two styles. While the participative school considers the member to be fully equipped, motivated and prepared to contribute meaningfully as 'equals', the NT school believes that some sort of a guided initiation is required to enable members to come up to their full potential before they can contribute meaningfully. The NT style has evolved in the cultural backdrop of developing countries, especially India, and has been found to be the most suitable style.

**Developmental Leadership Style.** This style is similar to the NT style but without the element of nurturant attitude. The approach is devoid of any emotional and supportive backing.

This composite variable includes the following items: leadership strongly stresses the competency development of subordinates, inspirational leadership that highlights a mission and vision of excellence, strong emphasis on the delegation of authority and initiative taking by subordinates, and placing issues before subordinates for full, and frank group discussion before decisions are made on consensus. Chronbach's alpha for this variable is 0.83.

**Professional Leadership Style.** This style emphasizes formal, rational, and scientific approach to problem solving and analysis. Naturally, the 'individual' in the 'organization member' is relegated to the background. The focus is on results, perfection, and excellence as assessed on professional yardsticks.

**'Get results by any means' style of leadership.** As the title suggests, the manager practicing this style is only concerned about achieving results and is not bothered about the means employed to achieve those results.

**Organizational Performance.** Organizational performance is influenced by the processes discussed earlier. Performance can be examined in terms of two aspects: internal outcomes, as reflected in improvement in employee morale, satisfaction, productivity, and work innovation; and external outcomes, as reflected in improvements in customer satisfaction, market leadership, organizational reputation for quality, and excellence.

In the study, the respondents were asked the extent to which there was deterioration or improvement in the following areas in their subunits: morale of the work-force, morale and team spirit of the managers, quality of project management, support of top management for improvement, co ordination among different departments, quality of superiors and managers, quality of technical staff, productivity of workforce, result orientation, level of work innovation, and the level of openness in the organization. This composite variable of organizational performance had a Chronbach's alpha of 0.93.

## **Results**

### **1. Orientation of Members and Organizational Learning**

All the factors of orientation of members show significant correlations with the different dimensions of organizational learning as shown in Table 2. Sense of meaningful job assignment and sense of harmony among organizational members have the lead scores in most cases. Looking back, we find that both these orientations consist of items which could be termed as motivators (e.g. challenge in job, sense of accomplishment and team spirit and harmony etc.) which trigger an intrinsic need to learn and provide a force for linkage and integration, so essential for organizational learning.

It can be seen from the table that sense of meaningful job assignment and sense of harmony among organizational members have the greatest correlations with the following factors of organizational learning: clear focus on objectives and attention to horizontal and vertical integration; tapping the potential of employees and helping them act as learning agents for the organization; and building latent assets which serve as foundation for long term planning and success. Thus, these two orientations have the greatest motivating influence on the energies of members for organizational learning.

<b>Table 2 : Correlation Between Organizational Learning and Orientation of organizational members</b>							
Orientation of Members (Factors)	Organizational Learning						
	Objectives & Integration	People potential & needs	Long term planning	Experimentation	Environmental scanning	Capability development	Total organizational learning
1. Sense of meaningful job assignment	0.44	0.43	0.45	0.40	0.31	0.33	0.42
2. Sense of development	0.31	0.28	0.30	0.35	0.26	0.29	0.30
3. Sense of harmony among organizational members	0.42	0.40	0.43	0.31	0.28	0.43	0.38
4. Sense of reward in job	0.33	0.34	0.39	0.39	0.25	0.35	0.32
5. Sense of security	0.30	0.32	0.26	0.27	0.32	0.28	0.29
All the correlations are significant at $p < 0.01$ .							

To evoke the spirit of experimentation, the two most important orientations are: sense of meaningful job assignment and sense of reward in one's job. When there are job challenges and recognition for good work done, organizational members tend to foster organizational learning by being more entrepreneurial.

Sense of security does not merely represent security of job tenure. The construct also includes items such as assurance that necessary information and other resources would be available as and when needed, and helpful and supportive nature of the immediate superior. This factor has relatively lower correlations with different dimensions of learning. But it may be noted that even the sense of security has a facilitating influence on organizational learning.

Finally, we note that sense of harmony among organizational members creates a climate of openness and trust, so that there is encouragement for constructive dissent, the organization benefits from interactions with outside experts, is able to carry out meaningful reviews, and is able to develop organizational capability for learning and change.

## **2. Managerial Attention and Organizational Learning**

Managerial attention to change and innovation emerges as a crucial and important process in a learning organization (Table 3). Of all the composite variables in this study, it shows the highest correlation to learning, along with developmental style of leadership to be discussed later. All the constituent items of this composite variable also show high association with different learning dimensions. In other words, managerial attention to change and innovation goes hand in hand with organizational learning. The results indicate that managers of learning subunits make consistent efforts

to develop managerial and technical abilities of their subordinates; generate professionally challenging tasks; initiate continuous innovations in work methods; introduce technological improvements; minimize costs through improvements in performance standards, and, most importantly, develop the ability of groups to work together.

A glance through the results reveals that the element of developing teams emerges as very important. Teams are groups with a meaningful purpose, specific performance goals, common approach, complementary skills and mutual accountability (Katzenbach and Smith, 1992). This aspect is particularly important in ISRO, as the organization works in advanced areas of science and technology in diverse fields and has to bring its experts together, pool their talent, and address complex issues of technology development and project management collectively. Thus the organization has to perform as a team of teams to accomplish successful space missions.

Development of managerial attention to team work shows very strong correlations with different aspects of organizational learning, particularly so with development of latent assets for long term planning and success, spirit of experimentation, and sensitivity to people potential and needs. When senior managers emphasize team work through their actions, they create a favourable context for individuals to collectively concern themselves with long term issues, to take entrepreneurial risks and for individual to act as learning agents for the organization. In short, the success of creating a learning organization is rooted in transforming the organization into a team of teams.

The correlation values also suggest that managerial attention to change and innovation has a strong influence on creating long term orientation, heightened sensitivity to the potential of the organizational members, and a spirit of experimentation and risk taking.

In comparative terms, managerial attention to continuity has weak association with organizational learning. However, an examination of correlations with individual items shows that one group of items has practically no relation to organizational learning, while another set of items has a low to moderate association. Specifically, attention to meeting time deadlines or routine interface issues has practically no relationship with learning. It is likely that attention to these issues reflects concern with productivity and not learning. As Friedlander (1983), notes, when a system concentrates on being highly productive it tends to ignore learning. It tends to concern itself more with applying what it knows already rather than search for new methods and approaches.

But another set of issues relating to continuity -- attention to maintaining high quality standards, creating informal group culture or getting decision made as close to action as possible -- has a facilitating influence on organizational learning. It is possible that these continuity related concerns foster incremental learning through the involvement of organizational members in concerted, consistent, continuous, and collective efforts toward improvement. The learning may be largely 'single loop' or, in other words, in the nature of initiating corrective actions within a given framework rather than 'double loop' or questioning and modifying the policy framework itself (Argyris and Schon, 1978).



Table 3 : Correlation Between Organizational Learning and Managerial Attention							
Allocation of Managerial Attention (Factors)	Organizational Learning						
	Objectives & Integration	People potential & needs	Long term planning	Experimentation	Environmental scanning	Capability development	Total organizational learning
1. Managerial attention to Change and Innovation.	0.45	0.51	0.53	0.55	0.44	0.47	0.45
a. Developing managerial abilities of subordinates	0.39	0.45	0.45	0.50	0.38	0.40	0.40
b. Developing technical abilities of subordinates	0.38	0.41	0.45	0.52	0.33	0.40	0.39
c. Ensuring professional satisfaction of employees with challenging work	0.43	0.45	0.48	0.45	0.39	0.37	0.44
d. Developing & implementing new methods of work	0.43	0.43	0.41	0.39	0.39	0.37	0.44
e. Introducing technological improvements and innovations	0.44	0.43	0.46	0.40	0.35	0.34	0.42
f. Developing ability of group to work together	0.48	0.53	0.59	0.53	0.49	0.48	0.47
g. Carrying out work at minimal costs	0.38	0.36	0.37	0.32	0.37	0.28	0.38
2. Managerial Attention to continuity.	0.19	0.26	0.28	0.32	0.22	0.22	0.18
a. Meeting internal time deadlines in work	0.04	0.09	0.10	0.15	0.07	0.04	0.04
b. Meeting time deadlines in work with respect to outside agencies	0.01	0.06	0.07	0.12	0.05	0.07	0.04
c. Working effectively with other functions/ departments.	0.05	0.09	0.13	0.22	0.12	0.10	0.06
d. Maintaining informal culture within the group.	0.12	0.26	0.21	0.32	0.24	0.21	0.18
e. Maintaining high quality standards in work	0.29	0.32	0.40	0.45	0.31	0.29	0.26
f. Getting decisions made as close to action.	0.26	0.28	0.32	0.22	0.21	0.26	0.18

All correlations are significant at  $p < 0.01$ .

### 3. Conflict Management and Organizational Learning


As is evident from Table 4, only the two proactive methods of conflict management show significant correlations with organizational learning. Of the two, conflict management through planning process to anticipate potential sources of conflict shows higher correlation as compared to conflict management through emphasis on corporate objectives, core values, communication, and job rotation.

Planning process help the organization confront its present problems in the context of its future aspirations and thus generates a concrete learning agenda for the organization (Friedlander, 1983). Planning process can also highlight the systemic factors that need attention.

Neilson (1972), proposes two strategies for reducing conflict between groups -- one by change in behaviour and the other by change in attitude. In Table 5, conflict reduction approaches at the top end try to change behaviour while those listed at the lower end try to influence attitude.

Dominant Modes of Conflict Management	Organizational Learning						
	Objectives & Integration	People potential & needs	Long Term planning	Experimentation	Environmental scanning	Capability development	Total organizational learning
1. Planning to anticipate potential source of conflict to minimize friction.	0.44	0.32	0.35	0.19	0.33	0.37	0.41
2. Emphasis on corporate objectives, core values, communication and job rotation.	0.33	0.25	0.28	0.14	0.19	0.35	0.33
3. Disputes are referred to committees (committee referral).	0.19	0.25	0.18	0.25	0.07	0.16	0.12
4. Disputes are forwarded to top bosses for resolution (hierarchical referral).	0.12	0.11	0.15	0.26	0.08	0.10	0.18
5. Conflicts are pushed under the rug (avoidance orientation).	-0.45	-0.30	-0.35	-0.15	-0.26	-0.20	-0.32
6. People in conflict situations come to an agreement on one to one basis (one-to-one resolution).	0.20	0.29	0.21	0.12	0.13	0.21	0.14

All correlations are significant at  $p < 0.01$ .

Target of change	Conflict Reduction Strategy
Behaviour	1. Bureaucratic Authority
	2. Limited Interaction
	3. Integration Devices
	4. Confrontation And Negotiation
	5. Third Party Consultants
	6. Rotate Members
	7. Superordinate Goals
	8. Intergroup Training
	Attitude

Behaviour change makes the conflict less visible, or keeps the group separated. This can eliminate or reduce open conflict, but the members of one unit will still dislike the members of other units. According to Neilson, a change in attitude is deeper and takes longer and it includes a change in behaviour as well. So, undoubtedly from the learning perspective we are interested in the deeper change of attitude of organization members. Thus, proactive methods of conflict management can foster learning through an attitude change brought about by a realization and appreciation of priorities and issues across units or departments.

The results show that committee referral and hierarchical referral modes of conflict management do not contribute much to organizational learning. In both cases, the resolution of the conflict becomes a 'settlement' arrived at after some minimal examination, cross-questioning, or enquiry. These are more procedural approaches where the 'law or rule takes its own course of action'. There is no real attempt at integration (Follett, 1951). One-to-one resolution whereby the conflicting parties settle on compromise also shows insignificant relation to learning. This is because trade-offs and/or appeasements are likely to be associated with such conflict resolutions, and there may be little or no learning for the organization. Interestingly, there is a high negative correlation between learning and management of conflict through avoidance orientation whereby the conflicts are not resolved but are pushed under the rug. Thus managers who pursue delay tactics or close their eyes to conflicts in the belief that "time" is the best healer may be contributing negatively to learning in their organizations.

Table 4 reveals a seemingly contradictory but an interesting result. The proactive methods which show fairly high correlations with five dimensions of organizational learning have a relatively low correlation with the experimentation dimension. But management of conflict through committee referral as well as hierarchical referral which generally exhibits a weak correlation with different dimensions of organizational learning displays notable correlation with the experimentation dimension.

Conflicts arising in organizations may call attention of managers to systemic problems which require change. Interestingly, the results suggest that hierarchical referral and committee referral modes of conflict management have greater likelihood of being entrepreneurial and taking calculated risks. This may be so because ISRO is a government run organization with attendant rules and regulations and a bureaucratic orientation. The tacit support of top/senior managers and/or a backing of a task force or a committee may be necessary to experiment with new approaches. These modes of conflict management may also provide a convenient means of drawing the attention of superiors to some persistent problems or getting their support and encouragement to pursue new ideas.

#### **4. Leadership and Organizational Learning**

The study reveals the significance of adopting a balanced mix of 'rational-emotional' approaches in the leadership influence process in a learning organization. The term 'rational' is used to denote task oriented, objective approach, incorporating management principles like participation, delegation of authority, and emphasis on development of subordinates, and the term 'emotional' to denote the caring, nurturant oriented, supportive, and inspirationally motivating approach. In Table 6,

the developmental and nurturant-task (NT) styles of leadership show the higher correlations with all the six learning dimensions.

Both developmental and NT styles are nearly equally correlated with all the learning dimensions except with 'capability development' where the NT style shows a comparatively higher value. The root of this difference may be traced to the conceptual difference between the two styles. While the NT style explicitly exhibits a fatherly concern and involvement in the development of subordinates, the developmental style, though emphasizing capability development very much, lacks emotional backing and support. It is a clear-cut objective approach to the development of capabilities of subordinates. Therefore it could be that organization members perceive a higher influence and contribution of the NT style in shaping their personality as an organization member, as well as enabling them to achieve full realization, development, and utilization of their capabilities.

Leadership Styles	Organizational Learning						
	Objectives & Integration	People potential & needs	Long Term planning	Experimentation	Environmental scanning	Capability development	Total organizational learning
1. Nurturant Task Leadership style	0.31	0.39	0.40	0.28	0.38	0.38	0.43
2. Developmental Leadership style	0.29	0.39	0.37	0.29	0.42	0.30	0.45
3. Professional Leadership style	0.25	0.20	0.26	0.06	0.23	0.17	0.25
5. Get Results by any means style	-0.05	-0.02	-0.01	-0.02	-0.14	-0.08	-0.17

All correlations are significant at  $p < 0.01$

Professional leadership style also shows significant correlation with learning except with the 'experimentation' dimension, but comparatively lower than those of NT and developmental styles. This lower correlation value brings to surface an important aspect: the role of a 'leader' or the 'style of leadership' in a learning organization.

A professional leader emphasizes formal, rational, scientific problem solving, and analysis. This definitely is appealing to the 'professional-self' in the subordinate. But something is lacking in this style that will also appeal to the 'individual-self' in the subordinate. The 'professional' organization member may consciously deny the necessity for an appeal to his 'individual-self' to bring out the best in him, because of his perception as a professional - one who is taught to think and act scientifically and rationally. But unconsciously, he may need the motivation, trigger, or appeal from the leader to his 'individual-self' to bring out the best in him consistently because, consistency

demands continuous improvement in the capabilities. We have seen in an earlier section that a nurturant attitude of the leader is more likely to achieve a higher development of the capabilities of the subordinate, which the professional style lacks.

The results presented in Table 6 reject 'get results by any means' style of leadership as having negative correlation with learning in the organization. Under this style of leadership what matters is 'results and results alone'. Some of the facets which this approach could imply are just "staying on plan and making your numbers" (Kiechel, 1990) - those magical numbers which represent the target or plan; following unstructured, haphazard or ephemeral strategies; and even adopting unethical shortcuts to achieve those magic numbers. These approaches seem to have a negative effect on learning in the organization.

## **5. Organizational Performance and Organizational Learning**

The results in Table 7 suggest that a learning organization is also a performing organization. We find that organizational performance as a composite variable as well as its constituent items show moderate to high association with all the learning dimensions.

Higher the morale and team spirit of managers, morale of work-force, quality of project management, top management support for improvement, coordination among different departments, quality of superiors and managers, productivity of the workforce, result orientation, level of work innovation, and level of openness in the organization, higher is the impetus to learning in the organization. We may also possibly think of a continuous loop where organizational performance boosts the morale and efforts of members to pursue purposive and meaningful learning which, in turn, enables the organization to become more effective and improve its performance further.

This effect could continue if the organization is careful not to build up the 'blocks to learning.'

As Duane Hartley, general manager of Hewlett-Packard's microwave division puts it, "organizations become successful, then they lose their sense of urgency and end up having to go through some kind of transition to get it back" (John, 1993).

### **Discussion**

The results show that organizational processes foster learning in the organization. This could imply that managing organizational processes is crucial.

In practical terms, meaningful organizational learning can be kindled and nurtured in organizations, when managers build the organization in such a manner that it is capable of acting like an organism (Hopkins, 1988). This means that the organization possesses the ability to pick up signals, interpret them in the light of available evidence and experience with least prejudice, and act on them effectively.

Table 7: Correlation Between Organizational Learning and Organizational Performance							
Organizational Performance	Organizational Learning						
	Objectives & Integration	People potential & needs	Long Term planning	Experimentation	Environmental scanning	Capability development	Total organizational learning
<b>Organizational Performance Total</b>	0.46	0.47	0.48	0.32	0.41	0.40	0.40
1. Morale of workforce	0.37	0.30	0.31	0.12	0.20	0.28	0.25
2. Morale and team spirit of managers	0.46	0.40	0.46	0.23	0.34	0.35	0.37
3. Quality of project management.	0.48	0.50	0.45	0.41	0.45	0.39	0.44
4. Support of top management for improvement.	0.33	0.31	0.40	0.24	0.33	0.26	0.30
5. Co-ordination among different departments	0.33	0.41	0.40	0.26	0.40	0.42	0.31
6. Quality of superiors and managers.	0.47	0.50	0.48	0.37	0.45	0.44	0.44
7. Productivity of workforce	0.36	0.30	0.35	0.12	0.25	0.29	0.32
8. Result orientation	0.38	0.40	0.32	0.24	0.33	0.32	0.39
9. Level of work innovation	0.41	0.36	0.35	0.27	0.32	0.32	0.40
10. Level of openness in the organization.	0.33	0.37	0.38	0.32	0.35	0.35	0.34
All the correlations are significant at $p < 0.01$ .							

In order that organizational members can actively contribute to organizational learning through these stimulus- interpretation- response processes, managerial attention is called for in the following aspects: empowerment of individual members so that they feel capable, motivated and confident to respond; introducing flexibility in organizational processes which allow members to pick up local signals and act promptly; and facilitating greater transfer of individual insights and learning to the larger organizational system or other sub-systems through effective management of organizational processes.

### ***Empowerment***

This concept is much deeper than authorizing, delegating, or sharing power with subordinates. It refers to the process of enabling or motivating organizational members through enhancing their personal efficacy and a sense of self worth (Conger and Kanungo, 1988). Empowerment gives organizational members a sense of competence, confidence, capability and commitment to make significant contributions. This is an essential pre-requisite for members to act as learning agents for the organization.

According to Conger and Kanungo (1988), a number of factors contribute to a sense of empowerment: a feeling of mastery over one's job obtained by performing complex tasks independently, tasting success and testing one's efficacy, and superiors' expectations and exemplary behaviour inducing subordinates to believe that they can, and should rise to higher levels of performance. It is thus obvious that, nurturant and developmental approaches adopted by the managers, team work, and an organizational climate characterized by harmony and trust contribute to empowerment of members.

In our study, a number of factors which were found to be strongly correlated with organizational learning are also factors of empowerment of organizational members such as orientation of organizational members, allocation of managerial attention to change and innovation, the nurturant-task and developmental styles of leadership, and the proactive modes of conflict management.

In simple terms, empowerment means that organizational members experience centrality in their organizations. When they feel a sense of importance in the eyes of their superiors and peers, their commitment and urge to contribute to organizational success are strengthened. In a learning organization, members feel a sense of meaningfulness in what they do, a sense of development of the full potential of their self, a sense of harmony among other members which provides support and cohesiveness, and a sense of reward in pursuing learning tasks as there is a feeling that their superiors and the organization expect them to perform better.

Considering allocation of managerial attention to change and innovation as an empowerment factor, Kotter (1982), notes that certain managers see their role essentially as change agents. They spend considerable amount of their attention, time, and energy on initiating and implementing change and innovations in their organizations. It is they who empower their subordinates. Managers with a clearly focused change agenda empower their people to overcome resource barriers to change by mobilizing their energies and aligning them with a vision.

According to Bennis and Nanus (1985), empowerment is the collective effect of leadership, an effect felt by the workforce. He identifies four themes which are evident in organizations with effective leaders: people feel significant; learning and competence matter, where leaders value learning and mastery; members are part of a community - a team; and finally there is stimulating, challenging, and exciting work. The leaders adopt a 'pull' rather than a 'push' style of leadership influence which energizes and attracts people to be part of a larger vision of the future.

The concept of 'push' and 'pull' is discussed by Harrison (1983). 'Push' style of influence means that managers employ formal mechanisms like organizational structure and management systems to get things done in the organization; that is, through authority which the organization structure confers, approved channels of communication, controlling flow of information and resources, and rewards and punishment. 'Pull' style, on the other hand, seeks to influence organization members through instilling a spirit, a shared and collective belief in the mission of the organization, and encouraging participative modes of management at all levels so that the members do not feel being directed or pushed.

In this study, empowerment of subordinates to pursue purposeful organizational learning, through the collective effect of leadership, is best shown by managers adopting nurturant-task or developmental styles of leadership. They are concerned about, and involved in the development of the full potential of the subordinates to enable them to perform to the best of their abilities and achieve mastery and distinction in their performance.

The developmental and NT leaders also communicate an exciting and driving vision of the future to the subordinates in unambiguous, pragmatic, and comprehensive form. Higher expectations from these superiors lead to a sense of empowerment for the members to rise to meet the new learning challenges. As Livingstone (1969) puts it, managers' expectations are the key to subordinates' performance and development.

To sum up, managers concerned with empowerment of members need to pay attention to four key aspects: roles and assignments of members, sensitivity to relationship processes, commitment to an egalitarian criteria, and a sense of excellence with respect to organizational performance.

### ***Unlearning***

The adage that 'old habits die hard' is true for organizations also. The process of learning becomes painful for organization members, since, to learn new work methods, the old has to be deliberately unlearned. This process of unlearning causes stress and anxiety in the individual member, unit, and the organization.

Unlearning is a process whereby the existing, clear, and established practices, set of beliefs, and behaviour patterns are questioned and scrutinized. When these patterns are found to be inadequate and incapable of meeting the new demands on the organization they are rejected. This creates a chaotic and uncertain situation. This is a transition stage where organization faces high uncertainty; hazy patterns of beliefs, structures, and activities; unclear roles for members; diffused response to new ideas and innovations; heightened political processes in an effort to define the situation; and numerous questions about the overall framework.

Effective managers realize that this process of unlearning is inevitable and unavoidable. They ensure that situation does not have a paralysing effect on the organization. They build a sense of competence, efficacy, and direction among members in viewing and manoeuvring the organization through this chaos and confusion.

Unlearning, in the first place, requires appropriately oriented and empowered organization members, who experience a sense of competence, meaningfulness, opportunity for development, challenge and reward in undertaking this painful process and who are primarily convinced of the necessity to unlearn. Such members are well geared to embark on the learning process.



Managers, as nurturant-task and developmental leaders, facilitate unlearning by infusing a spirit of experimentation and entrepreneurship among subordinates. The nurturant attitude provides confidence to initiate unlearning as well as to lessen the anguish and uncertainty associated with it.

Unlearning leads to many conflicts within the individual as well as among the different organizational members, units or functions. The conflict 'within' is what we described as 'pain' and 'anguish' above. The other conflict could arise between "the old guard" on one side, who may feel emotionally involved in the current practices of the organization, who may feel threatened about their own survival if new and modern practices which are quite alien to them are introduced in the organization, or who may be skeptical, cynical, and risk averse; and the rest of the members, units, or functions on the other side who endeavour to attempt change and innovation in the organization.

The proactive methods of conflict management comes handy for managers. Through emphasis on corporate values and goals they can create a shared concern for the need to learn. Conflict resolutions through both hierarchical and committee referral provide a wider platform for discussion, and resolution of competing ideas, issues, concerns, anxieties, and apprehensions which arise in the process of unlearning. It can help convey ideas and concerns across different levels and functions in the organization, and build mutual confidence and trust.

Managers can endeavour to smoothen the unlearning process through long term planning, taking care in training subordinates to prepare them to take on the learning challenges, and by having a clearly focused objective of what one is striving to achieve.

### ***Relearning***

The chaotic, transition phase of unlearning gives way to the relearning phase. During the relearning process, the organization gradually builds up a new set of beliefs, behaviour patterns, structures, and activities; members' roles become clear, uncertainty is reduced; and the organization as a whole realizes, understands, and comes to grips with the rationale behind the new pattern.

Organizational performance also aids learning. Organizational performance as manifested in the improvement in the morale of the workforce, team spirit, quality of work, enhanced reputation of the organization in society, and the like can trigger a sense of accomplishment, which motivate members to take up more learning challenges.

To sum up, in a learning organization, both unlearning and relearning are founded in a shared recognition of the need to learn continuously. In a deeper sense, this collective feeling is what may be termed as the 'learning culture' of the organization. It values learning in the organization; empowers members to pursue learning; encourages a spirit of experimentation and innovation and entrepreneurship; generates a feeling of meaningfulness, satisfaction, and reward in one's work; and above all holds an exciting vision of being a learning organization.

## **Team Learning**

The importance of teams in organizational functioning is attracting a lot of attention these days. Team work seems to emerge as the dominant mode of organizational action. This study also brings out the important role of teams in fostering learning in the organization.

For managers attempting organizational change and encouraging innovation, not only developing the ability of subordinates to work together in teams but also enabling them to learn in teams becomes crucial. This is because, in today's complex environment, no development is such that it may have impact only in one unit, area, function, or sphere of activity of the organization. Therefore, comprehending the system-wide consequences of any new development or event would require organizational teams consisting of members from diverse disciplines and experiences.

Further, with increasing job specialization of members, increasing complexities of jobs, rapid technological changes, and complex environmental factors, individual members may feel helpless and ill-equipped to take up large, complex, and multidisciplinary issues and tasks independently. Here, facilitating team learning comes as a handy tool for managers.

Finally, a learning organization is a team of teams - teams bound by the learning culture of the organization. Just like quality is an attitude of mind and perfection a way of life in a learning organization, experimentation is an attitude of mind and learning a way of life.

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